

# EMBEDDING STATION CD1000/L

Code: 23-CD1000/L




In the photo, from the left: Freezer Plate, Paraffin Dispenser, Thermal Unit.

## USE PRECAUTIONS

**Before using the instrument, read carefully the instructions and warnings contained in this manual and keep it for further reference. They supply important indications regarding the functions and safety for installing, using and maintaining the instrument.**

**Bio-Optica Milano S.p.A. cannot be held responsible for any damage caused by improper or incorrect use and by the non-observance of any of the prescription provided in this manual and by the safety regulations in force.**

1. After unpacking, make sure that the instrument is complete and not damaged by transport.
  2. Before connecting the instrument to the power supply make sure that its rating corresponds to that of the power supply.
  3. This instrument must only be used for the purpose for which it was designed, that is, as embedding station for laboratory use. Any other use is to be considered improper and therefore hazardous.
  4. The instrument must only be used by authorized and professionally qualified technician.
  5. The electrical safety of this instrument can be guaranteed only if it is correctly connected to an efficient earth circuit as indicated by current electrical safety regulations. It is necessary to check this fundamental safety prerequisite, and if in doubt, ask to check the circuit. The instrument is provided with a power supply cable having 2 wires + ground tap that have to be connected to the power supply socket.
  6. Do not remove the chassis or parts of it during operation. Switch off the instrument and disconnect the power supply cable before opening it. This operation must to be effected only by authorized and professionally qualified technician.
  7. To eliminate instrument malfunctioning risks, do not work near strong magnetic fields and do not use transmitters such as cellular phones near the instrument. In case of serious malfunctioning switch off the instrument and contact the Technical Assistance Service.
  8. All waste material, both infectious and radioactive, deriving from the appliance working cycle must be disposed in compliance with the regulation in force.
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- This appliance is marked from this symbol, in compliance with EU directive 2002/96/CE regarding electric and electronic appliances waste. This mean that the instrument, at the end of its useful life, must be collected separately from other refuse. The user must deliver it to the special differentiated refuse collection centres, that are predisposed by the public authority.
9. The contents of this manual is subject to change without further notice.
  10. Please find enclosed the declaration of conformity.

11. Graphic symbols indicated on the label (positioned near the instrument's power supply socket):

Symbol for CATALOGUE NUMBER:



Symbol for SERIAL NUMBER:



Symbol for ALTERNATING CURRENT:



Symbol for FUSE:



Symbol for CONSULT THE INSTRUCTIONS:



Symbol for EC MARK:



Symbol for IN VITRO DIAGNOSTIC-MEDICAL DEVICE:



Symbol for DISPOSAL OF ELECTRIC AND ELECTRONIC EQUIPMENT:



Symbol for DATE OF MANUFACTURE:



Symbol for MANUFACTURER:



## DESCRIPTION

Modular instrument used to effect the paraffin inclusion of cytological and histological samples.

Composed of three separate modules called **Paraffin Dispenser**, **Thermal Unit** and **Freezer Plate** which can be positioned in a different way depending on the operator's requirements.

### Dimensional features

Dimensions (WxDxH):	1200x560x290 mm.
Weight:	68 Kg.

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### Electrical connections

Power supply:	230V~ 50/60Hz.
Power:	1630 Watt (in total).

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### Other connections

Water connections:	Not necessary.
Fumes aspiration/filtration:	Not necessary.

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### Technical features common to the three modules

Working temperature adjustment:	Through electronic thermostat with microprocessor.
Working parameters visualization and modification:	Through control panel with digital display, bilingual (Italian and English).
Programming possibility:	Instrument starting and switching off, weekly.

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### Installation

Position the instrument on a level and stable working bench and connect it to the power supply socket (230V~ 50/60Hz) using the provided cable.

For the Freezer Plate: Make sure that the back grid has at least a 10 cm free space in order to allow the aeration of the cooling system.

**Important:** Do not use any extension or adapter and do not modify the provided cable.

## Backlit control panel

The working of the control panel is equal for all the three modules. The only difference regards T1 and T2 probes:

- In the Freezer Plate there is only T1 probe, which measures the temperature of the stainless steel plate.
- In the Paraffin Dispenser T1 probe measures the temperature of the paraffin basin, T2 probe the temperature of the working plate.
- In the Thermal Unit T1 probe measures the temperature of the upper chamber, T2 probe the temperature of the lower basin.



**TIMER DELAY:** Delay the automatic instrument's turn off.



**TEMPERATURE SETTING:** Set the desired temperature value.



**MENU:** Allows to access the functions.

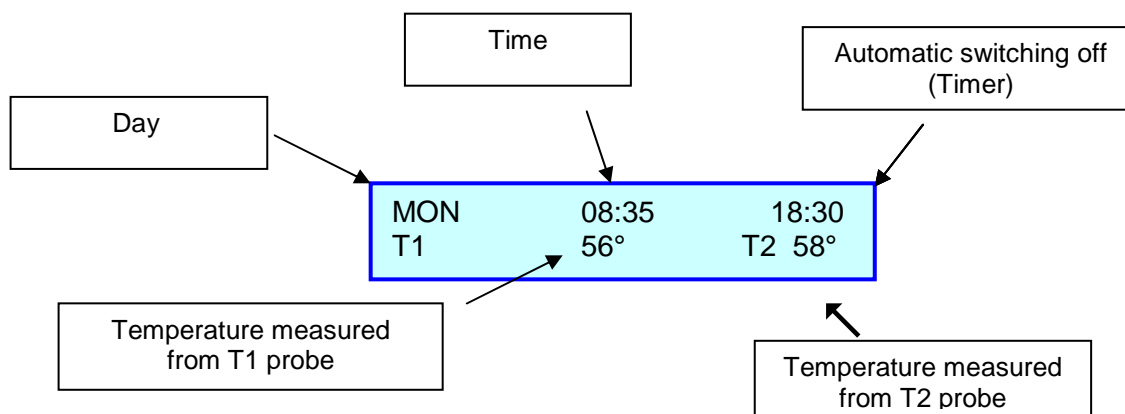


**ENTER:** Accept/store values.







**UP/DOWN SELECTIONS BUTTONS:** Modify values or select the functions.









## Display



## Setting the temperature

Press  to display the temperature and   to change it. The value is saved automatically (after 5 seconds the main screen appears on the display) or by pressing  for 4 seconds.


## Setting time and date

Before setting the timer, control time and date by pressing simultaneously  and . The day will flash; if necessary, modify it by pressing  . Press  to view the time and, if necessary, modify it by pressing  . Press  to exit.




## Setting the timer

The timer allows to plan the starting and switching off of the instrument for every day of the week.

Example: From Monday to Friday: starting (ON) at 08.00 a.m. - switching off (OFF) at 18.30 p.m.  
On Saturday and on Sunday: switching off.

Press  to view this screen:

Progr	Day	Work
Monday	TIMER	

Press   to set the starting or switching off for Monday. To confirm press . Repeat for every day of the week, up to Sunday.

Afterwards will be displayed this screen:



Progr	Timer
Start	T1. 08.00


To modify the starting time, press   and, to confirm, .

**[Where provided, a second screen will appear and it will be possible to set the starting time of the second resistance "T2". Use the same procedure].**

After pressing , this screen will appear:

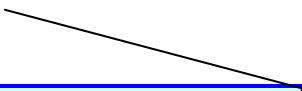
Progr	Timer
STOP	18.30

Press   to modify the switching off of the resistance.

At last press  for 3 seconds to exit. The main screen will appear on the display.

## Timer delay

To delay the automatic switching off of the instrument, press  for 4 seconds. When the switching off time will flash, it will be possible to modify it by pressing  .

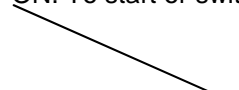


MON	08:35	18:30
T1	56°	

This operation does not modify the preset switching off time.

## Timer esclusion (manual operating)

To operate the instrument manually, it is necessary to set all days to ON. (see “Setting the timer”). On the display will appear ON. To start or switching off the instrument it will be necessary to use the general switch every time.



MON	08:35	ON
T1	56°	

## Cleaning

Before effecting the cleaning, switch off the instrument and unplug the cable from the socket. Use only alcohol or non-aggressive detergents. Do not use abrasive products or acids in order to avoid ruining the varnished or plastic parts. A plastic spatula can be used to remove residual paraffin.

For Paraffin Dispenser: the paraffin collecting drawer, placed on the frontal side, must to be emptied daily.

For Freezer Plate: effect the periodic cleaning of the back grids.

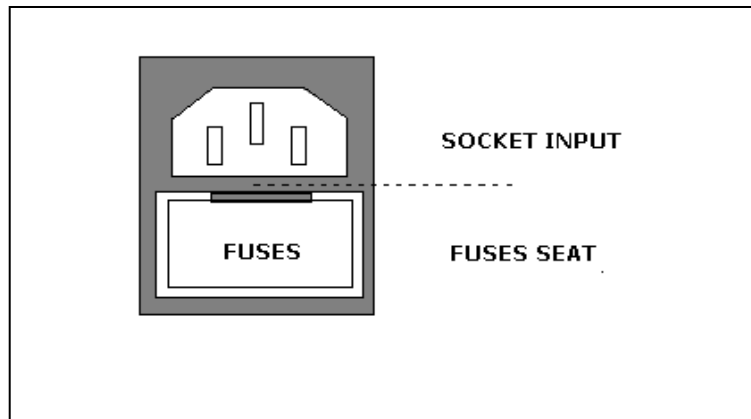
The instrument does not need to be sterilized because is not expected the treatment of fresh samples but only of histological samples fixed and included in paraffin.

## Maintenance

Effect the periodic cleaning.

## Replacing the fuses

If the instrument doesn't start, check that the electric cable has been connected properly, there is current and the two fuses under the instrument's socket aren't burnt. If necessary, change them with fuses of identic value.



Fuses holder socket (N. 2 delayed fuses).

Instructions for the replacement: Switch off the appliance and unplug the cable from the socket. Make a light pressure on the little carter covering the fuses (if necessary using a little screwdriver), change them, close the carter and check the instrument's ignition.



## FEATURES OF THE SEPARATE MODULES

### 1) Paraffin Dispenser 23-DP500

Paraffin dispenser used to effect the inclusion of histological samples quickly and cleanly. The constant temperature of the paraffin basin, of the working plate and the separate heating of the dispensing nozzle assure the optimal working temperature.



Dimensions (WxDxH):	360x550x290 mm.
Paraffin basin dimensions (WxDxH):	300x150x100 mm. Capacity ca. 4 litres.
Working plate dimensions (WxD):	360x300 mm.
Weight:	21 kg.
Power:	700 Watt.
Fuses:	N. 2 fuses of 4 Ampere - 5x20 mm - T4AH250V.
Working temperature:	Adjustable from +20°C to +70°C. Reading precision $\pm 2^{\circ}\text{C}$ .

### Structural features of 23-DP500

- Painted sheet steel chassis.
- Structure consisting of two working areas heated and thermostated separately:
- Stainless steel paraffin basin with cover, used to melt scale paraffin.
- Aluminium working plate provided with 6 heated seats for tweezers and paraffin collecting drawer, both heated.
- Paraffin dispensing system through dispensing nozzle controlled by proximity sensor (free of maintenance) or through pedal (optional accessory). Flow adjustment through regulation knob.
- Lighting through articulated halogen lamp of 12 Volt - 5 Watt.
- Cold point for rapid cooling:  $\varnothing$  55 mm spot cooled at ca.  $-3^{\circ}\text{C}$  through "Peltier" plate, with independent ignition.

## Instructions for use of 23-DP500

- 1) Press the green general switch to start the instrument and the paraffin basin resistance.
- 2) Regulate the temperature following the instructions shown on the following pages. Remember that T1 corresponds to the paraffin basin temperature, T2 to the working plate temperature.
- 3) In order to switch on the halogen lamp, rotate the ring placed on the lamp body clockwise (Photo on the left).
- 4) In order to obtain the rapid cooling of the samples, switch on the cooling plate (Peltier) by pressing the orange switch.
- 5) In order to obtain the paraffin supply, draw up a finger or a metal object to the grey proximity sensor placed under the nozzle (Photo on the right) or press the pedal (optional accessory). Regulate the paraffin flow with the white knob placed over the nozzle.

**Important:** After the instrument ignition, at least 2 hours are necessary to obtain the complete heating of the dispenser and the consequent supply of melted paraffin.



Halogen lamp.



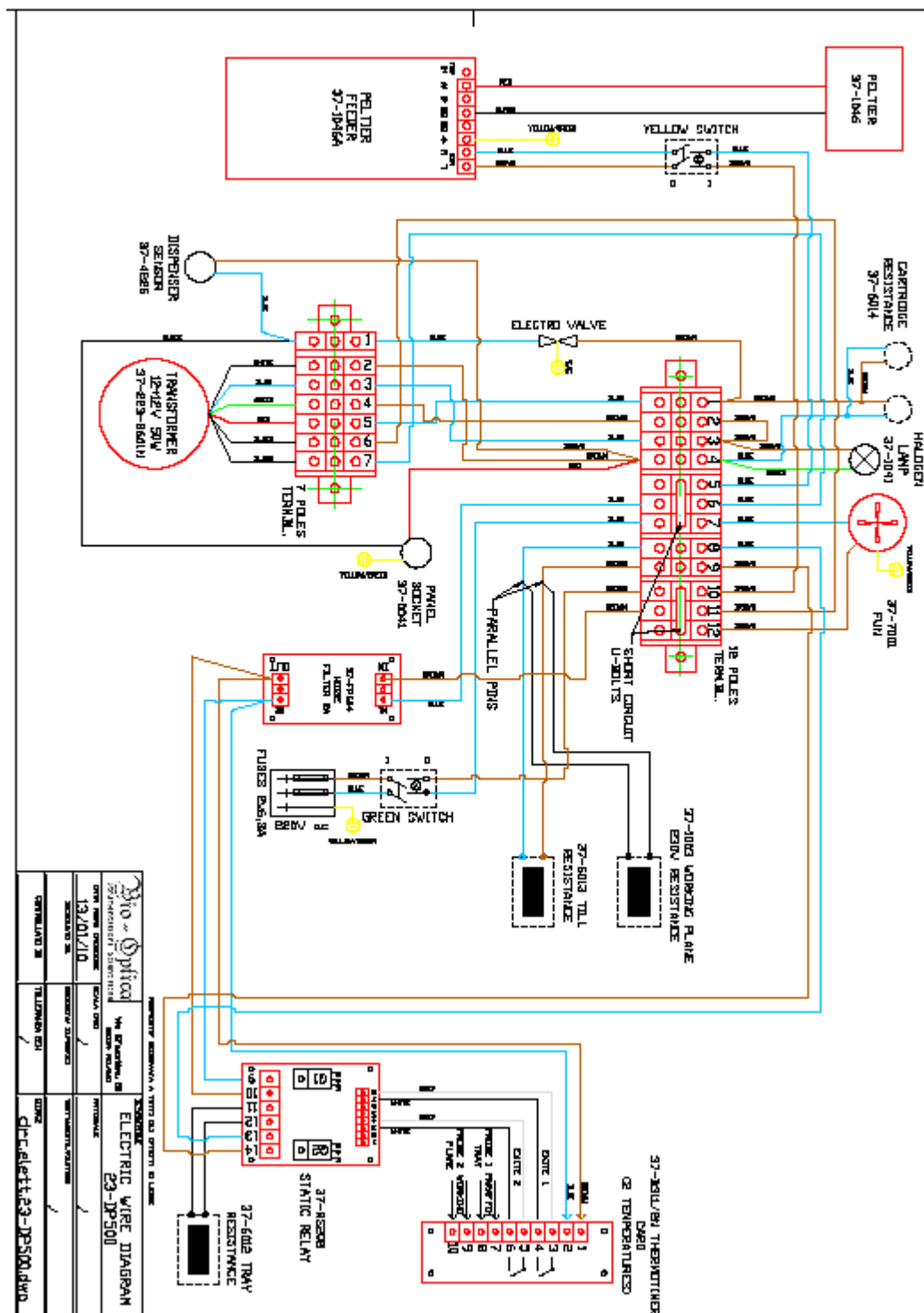
Dispensing nozzle controlled by proximity sensor.

## Main components of 23-DP500

CODE	DESCRIPTION	QUANTITY
37-AR09E2F6A	6 ampere wire filter	1
37-B311/2N	N. 2 temperatures thermal timer	1
37-BSP/1	tube for block	3
37-BSP50X46	paraffin waste block	1
37-FI100	paraffin tank filter	1
37-FP604	noise filter	1
37-GH100	paraffin tank metal ring	1
37-RS208	static relay	1
37-0041	panel socket	1
37-129C240	electric valve body	1
37-129-432	green waterproof switch	1
37-181-D	diode	1
37-223-8601N	transformer	1
37-1003	resistance	1
37-1023	rubber feets	4
37-1044	paraffin passage block	1
37-1044/1	brass nut for block	1
37-1044/2	brass nipple	1
37-1044/3	basin fixing joint	1
37-1045	power supply cable	1
37-1046	peltier cell	1
37-1046A	peltier cell feeder	1
37-1047/1	aluminium plate	1
37-1047/2	plexiglas plate	1
37-1047/3	aluminium disc for peltier	1
37-1050	paraffin dispenser block	1
37-1050/1	stainless steel rubber holder	1
37-1050/2	delrin screw	1
37-1050/3	stainless steel nozzle	1
37-1050/4	teflon guide	1
37-4039	heat dissipator	1
37-4041	halogen lamp (spare bulb code: 37-370-3077)	1
37-4043N	polycarbonate panel	1
37-4050F	female connector	1
37-4225	dispenser sensor	1
37-6012	mica resistance	1
37-6013	waste drawer resistance	1
37-6014	cartridge resistance	2
37-7001	fan	1
37-24548B2BY	bipolar switch	1

37-1098/1	upper chassis	1
37-1098/2	hinged cover	1
37-1098/3	lower base	1
37-1098/4	paraffin basin	1
37-1098/5	paraffin recovery drawer	1
37-1098/6	paraffin drawer base	1
37-1098/7	drawer frontal	1
37-1098/8	internal basin	1
37-1098/9	resistance plate	1
37-1098/10	mask for display	1
MU23-DP500	user manual	1

## Electric wiring diagram 23-DP500



## 2) Thermal Unit 23-UT200L

Thermal unit used for paraffin and blocks heating.



Dimensions (WxDxH):	360x550x290 mm.
Blocks upper chamber dimensions (WxDxH):	315x210x104 mm.
Removable upper basin (WxDxH):	310x195x100 mm. Capacity ca. 5,5 litres.
Samples lower basin dimensions (WxDxH):	265x205x40 mm. Capacity ca. 3 litres.
Weight:	17 kg.
Power:	330 Watt.
Fuses:	N. 2 fuses of 3,15 Ampere - 5x20 mm - T3.15AH250V.
Working temperature:	Adjustable from +20°C to +70°C. Reading precision $\pm 2^{\circ}\text{C}$ .

### Structural features of 23-UT200L

- Painted sheet steel chassis.
- Structure consisting of two stainless steel working areas heated and thermostated separately:
- Fixed upper chamber with cover used for the inclusion blocks preheating.
- Removable upper basin that can be used to contain the cassette holder baskets coming directly from the processor with maximum height of 100 mm.
- Removable lower basin with horizontal sliding cover, used to melt scale paraffin where processed samples are placed before being included.

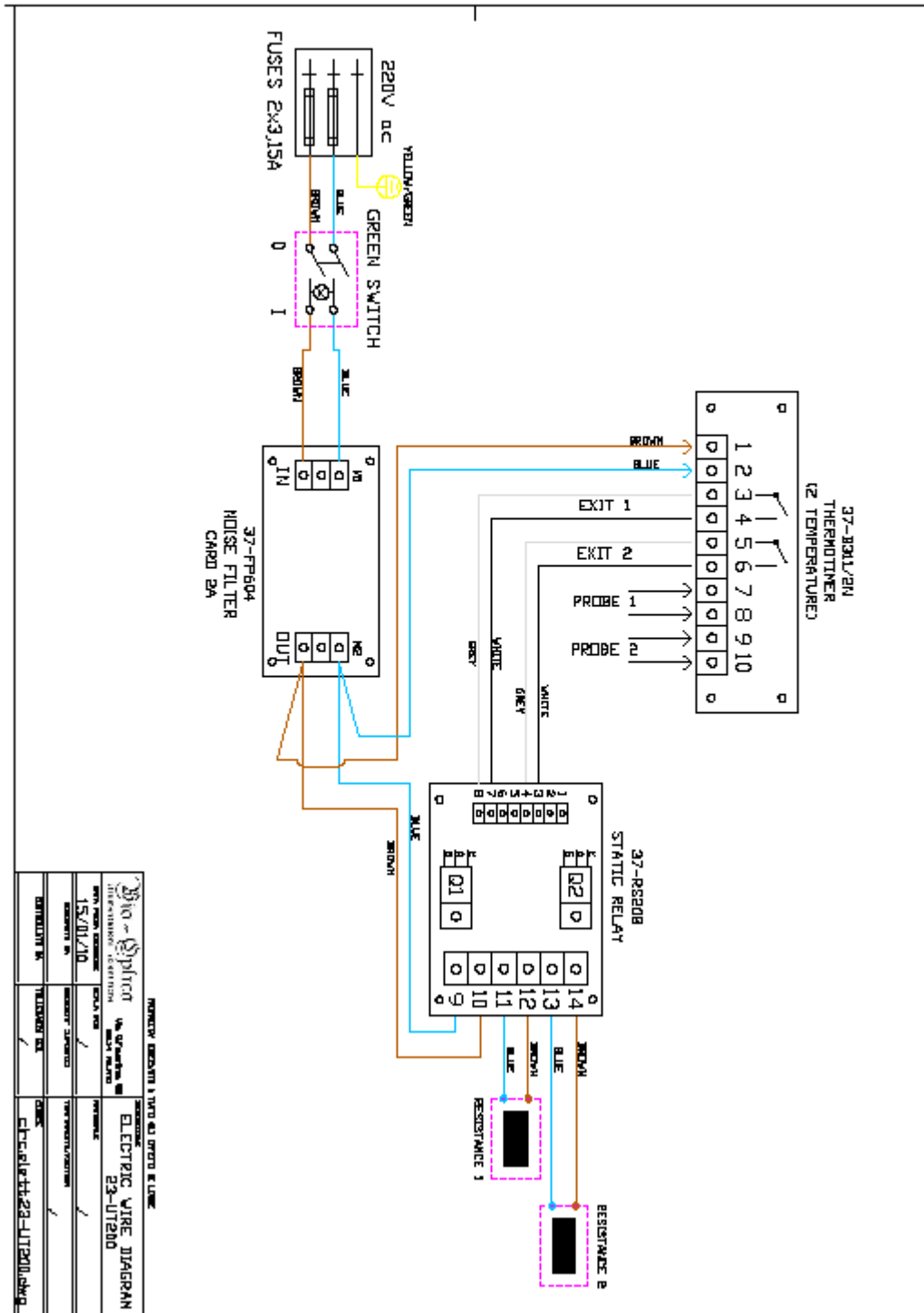
## Instructions for use of 23-UT200L

- 1) Press the green general switch to start the instrument and the lower basin resistance.
- 2) Regulate the temperature following the instructions shown on the following pages. Remember that T1 corresponds to the upper chamber temperature, T2 to the lower basin temperature.

## Main components of 23-UT200L

CODE	DESCRIPTION	QUANTITY
37-AR09E2F6A	6 ampere wire filter	1
37-B311/2N	2 temperatures thermal timer	1
37-FP604	noise filter	1
37-RS208	static relay	1
37-129-432	green waterproof switch	1
37-181-D	diode	1
37-245-641	resistance	1
37-1023	rubber feets	4
37-1045	power supply cable	1
37-4038	knurled handle	1
37-4044N/L	polycarbonate panel	1
37-6010	mica resistance	1
37-1097/1L	upper chassis	1
37-1097/2	lower chassis	1
37-1097/3L	upper hinged cover	1
37-1097/4	sliding cover	1
37-1097/5	removable lower dish	1
37-1097/6	lower frame	1
37-1097/7	lower base	1
37-1097/8	internal lower base	1
37-1097/9	lower resistance plate	1
37-1097/10L	upper basin	1
37-1097/11	upper basin base	1
37-1097/12	upper resistance plate	1
37-1097/13	rod for cover	1
37-1097/14	removable upper basin	1
MU23-UT200L	user manual	1

## Electric wiring diagram 23-UT200L





### 3) Freezer plate 23-PF200L

Freezer plate used to obtain the rapid cooling of histological samples included in paraffin.



Dimensions (WxDxH):	500x550x290 mm.
Cooling chamber dimensions (WxDxH):	422x245x48 mm.
Weight:	30 kg.
Power:	600 Watt.
Working temperature:	Adjustable from +20°C to -20°C. Reading precision $\pm 2^{\circ}\text{C}$ .

#### Structural features

- Painted sheet steel chassis.
- Stainless steel cooling surface which can house up to 250 standard embedding cassettes, placed in vertical position in the proper guides. Number of guides that the plate can house: 12.
- Provided with plexiglass transparent cover and 48 mm high edge, where is concentrated most of the cooling power, to obtain a refrigerated chamber and not only a cold supporting plane. The advantages of this solution are: 1) a high cooling power independently from the contact between the cassette and the supporting surface 2) absence of condensate on the supporting plane (condensate limits at 0°C the real temperature on the working surface) 3) absence of condensate drippings on the laboratory bench 4) higher number of cooled cassettes.
- Cooling system by compressed cycle without CFC.
- N. 3 metal guides for cassettes 23-PF210L.

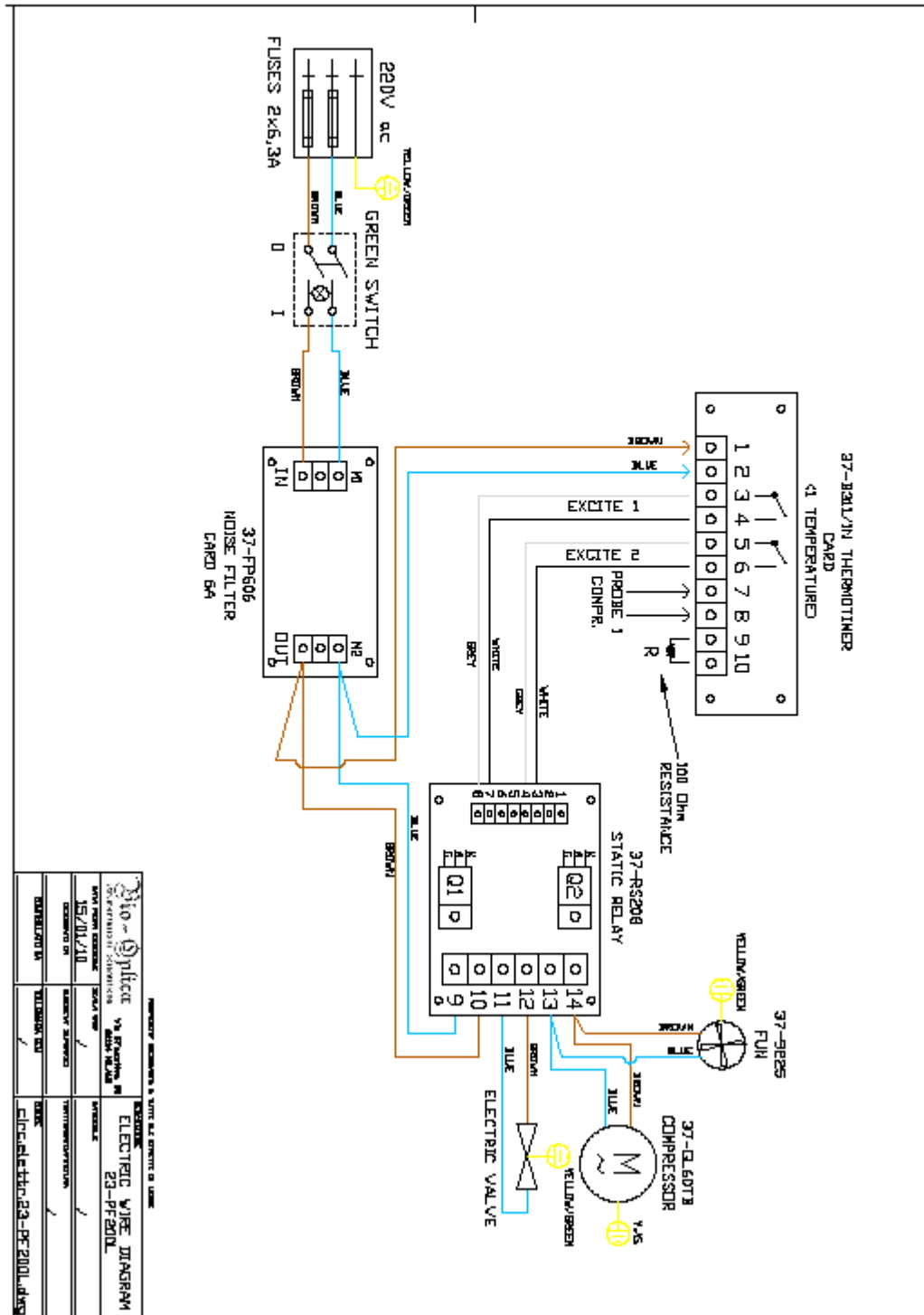
## Instructions for use of 23-PF200L

- 1) Press the green general switch to start the cooling system.
- 2) Regulate the temperature following the instructions shown on the following pages. T1 corresponds to the stainless steel plate temperature.

## Main components of 23-PF200L

CODICE	DESCRIZIONE	QUANTITA'
37-AR09E2F6A	FILTRO DI RETE 6 AMPERE	1
37-B311/1N	THERMOTIMER 1 TEMPERATURA	1
37-FP606	SCHEDA ANTIDISTURBO	1
37-GL60TB	COMPRESSORE	1
37-RS208	RELE' STATICO	1
37-VI100	VITI PER PIASTRA	6
37-129-432	INTERRUTTORE VERDE	1
37-0105L	CORNICE PIASTRA	1
37-01062L	COPERCHIO	1
37-1023	PIEDINI IN GOMMA	4
37-1045	CAVO ALIMENTAZIONE	1
37-4042L	PANNELLO POLICARBONATO	1
37-1099/1	SCOCCA SUPERIORE	1
37-1099/2	BASE INFERIORE	1
37-1099/3L	VASCA INOX	1
37-1099/4L	PIASTRA IN RAME	1
37-1099/5	DIVISORE PER GUIDA	9
23-PF210L	GUIDA PER CASSETTE	3
MU23-PF200L	MANUALE D'USO	1

## Electric wiring diagram 23-PF200L



<b>Bio - Optica</b> 15/01/10 15/01/10 15/01/10		<b>ELECTRIC WIRE DIAGRAM</b> 23-PF200L 23-PF200L	
DATE	15/01/10	DATE	15/01/10
REVISION	1	REVISION	1
DESIGNED BY	15/01/10	DESIGNED BY	15/01/10
CHECKED BY	15/01/10	CHECKED BY	15/01/10

Milano, 14 luglio 2011

**DICHIARAZIONE DI CONFORMITA' / DECLARATION OF CONFORMITY  
KONFORMITÄTSEKLRÄRUNG / DECLARATION DE CONFORMITE**

Nome e indirizzo della ditta Name and address of the firm Name und Adresse der Firma Nom et adresse de l'entreprise	BIO OPTICA Milano S.p.A. Via S.Faustino, 58 20134 MILANO C.F./P.IVA 06754140157
<p><b>Dichiariamo sotto la nostra responsabilità che / We declare under our sole responsibility that Wir erklären in alleiniger Verantwortung, dass / Nous déclarons sous notre propre responsabilité que</b></p>	
il dispositivo medico-diagnostico in vitro the in vitro diagnostic medical device das Medizinprodukt für die In-vitro_Diagnostik le dispositif médical de diagnostic in vitro	<b>23-CD1000/L</b>
della classe: of class: der Klasse: de la classe:	Altro Other Sonstiges produkti Autre
<p>soddisfa tutte le disposizioni della direttiva 98/79/CE che lo riguardano meets all the provisions of the directive 98/79/EC which apply to it allen Anforderungen der Richtlinie 98/79/EG entspricht, die anwendbar sind remplit toutes les exigences de la directive 98/79/CE qui le concernent</p>	
Norme nazionali o armonizzate applicate Applied harmonised standards and National standards Angewandte harmonisierte Normen, nationale Normen Normes harmonisées et normes nationales	<ul style="list-style-type: none"> <li>– EN 375:2001</li> <li>– EN 980:2003</li> <li>– EN ISO 14971:2007</li> <li>– EN 60601-1-2:2007</li> <li>– EN 61010-1:2001-03</li> <li>– EN 61010-2-101:2002</li> <li>– EN 61010-2-010:2003-10</li> </ul>

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**Legale Rappresentante**  
**Carlo Sbona**

